

UPPER PENINSULA GEOLOGICAL REPOSITORY (UPGR)

416 Avenue C
Gwinn, Michigan 49841



General Information

The Upper Peninsula Geological Repository (UPGR) holds a collection of drill core and cuttings with an emphasis on Northern Peninsula Geology. Drill core samples are obtained by using specialized drilling tools which allow for discrete intact samples to be brought back up to the surface for geologic evaluation. Drill cuttings samples are fragments of rock which are returned to the surface during the drilling process. The purpose of the UPGR collection is to act as a "rock library" and make the collected material available to researchers and industry for geologic study. Some aspects of this study, may include:

- Mineral resource exploration and development
- Addressing issues related to water quality
- Contributing to research on climate change
- Enhancing the ability to identify geological hazards
- Supporting research of unconventional energy sources

In addition to the UPGR facility, the Michigan Geological Repository for Research and Education ([MGRRE](#)) at the Western Michigan University, in Kalamazoo, Michigan, includes drill core and cuttings with an emphasis on Southern Peninsula geology.



The Department of Environment, Great Lakes, and Energy (EGLE), Oil, Gas, and Minerals Division (OGMD) moved into the new UPGR facility in the fall of 2020. Located in Michigan's Upper Peninsula near the Sawyer International Airport in Gwinn, the collection is enclosed within in a 44,000 square foot warehouse at the former K.I. Sawyer Air Force Base. The samples were previously stored in two separate buildings that were in a state of disrepair and at maximum capacity. The new UPGR facility has significantly more space that will allow for expansion of the collection and offers greatly improved amenities in a more modern safe environment. Most core and cuttings are classified as non-confidential and are open and available for viewing. The core storage inventory consists primarily of rock core drilled during mineral exploration on private and state mineral leases. The collection also includes a small number of rock cuttings, chips, and hand samples. It is hoped that the UPGR collection will lead to increased overall geological knowledge and allow informed decisions involving all aspects of our society from agriculture to energy to minerals to drinking water and to remediation.

History and Available Core

Two large acquisitions of mineral exploration and mine core are from the M.A. Hanna-Groveland collection and the U.S. Bureau of Mines-Michigan collection obtained in 1989. The M.A. Hanna- Groveland collection consists of cores from many cross sections of the old Groveland open-pit iron mine and core from numerous iron exploration projects. The U.S. Bureau of Mines-Michigan collection consists of thousands of boxes of Michigan exploration and mine core formerly housed at the U.S. Bureau of Mines Repository at Minneapolis, Minnesota.

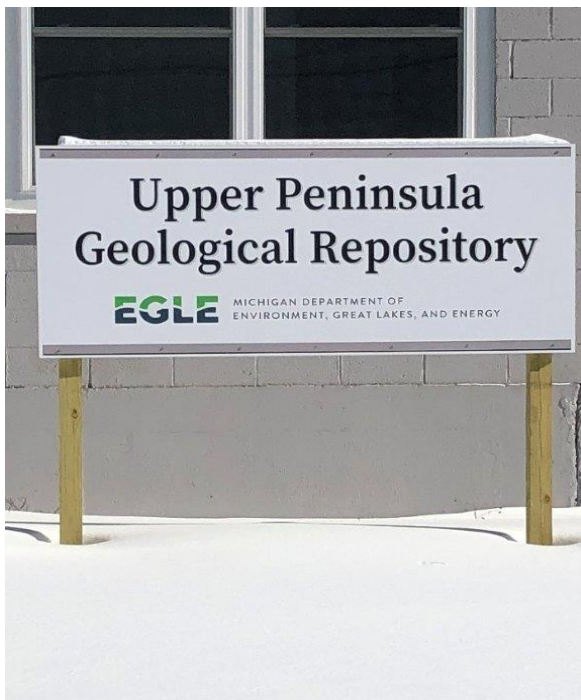
Acquisitions in 1993 included exploration drill core from Marquette and Iron Counties donated by Kerr McGee Corp. and Callahan Mining Corp. The collection also includes exploration drill core from Baraga basin exploration and core from the western syncline project along with pulps, second splits, assays and numerous soil and outcrop samples.

The collection also includes the core from the deepest all-cored mineral well drilled by AMOCO Production Company. This was a 7,238 foot hole that was drilled in late 1987 to learn more about the Mid-continent Rift. It was located southeast of Munising, near Wetmore, in Alger County in the Upper Peninsula. The hole ended in Precambrian aged Portage Lake Volcanics of Keweenawan time.

Core and drill cuttings are required to be submitted from State mineral exploration leases. We also encourage donations of drill core and cuttings from Michigan projects drilled on private lands. Additional cores expand the coverage of our open-file collection and help increase the knowledge of the state's geology.

The OGMD's metallic mine and data collection is also stored at the repository. This includes thousands of surface and underground maps from early to more recent mines from the western one-half of the Upper Peninsula. Reports and other miscellaneous information is also available from this same area. This collection helps in the understanding of the geology and mineral resource potential of the state, as well as being an aid to public safety and land use planning. It is a record of potential mine subsidence areas of the state which should be avoided when construction is planned.

Use of the Collection



UPGR Visitors must follow guidelines and are to use extreme care when handling drill core so that the sequence of the core in the boxes is not disturbed. To maintain an accurate record of the core for future use, every effort is to be made to replace the core exactly as it was found in the core box. With prior approval some limited sampling of materials is allowed. Some core may be loaned out under special arrangements. No sampling of core will be allowed where $\frac{1}{4}$ or less of the full diameter core exists. No more sample than is reasonably needed is to be removed. This is to preserve the core as much as possible. After testing, any remaining sample pieces, cuttings, or pulps, etc. are to be returned to the OGMD. A form, provided by the OGMD, must be completed which includes a list of all samples collected; including drill hole number, footage, sample number, and proposed use of the material. Also, any core removed for sampling must be replaced with a marker showing the name of the sampler, organization, date, and footage of core removed. The OGMD is to receive a copy of all research results, data, reports, publications, interpretations, assays, logs, thin sections etc., from samples taken at the repository. This information will become part of the public record. University students borrowing core and samples for use in reports, research or theses, sign a special use agreement form. They must have their major professors take full responsibility, in writing, to see that all materials are returned in good condition and all necessary reports, research, etc. are submitted to the OGMD in a timely manner.

The facility includes two examination rooms and a common meeting area. On site equipment includes a binocular microscope, hydraulic core splitter, and trim saw. Archives, inventory, retrieval, and replacement of geologic material is provided by OGMD staff. UPGR is open by appointment, Monday through Friday, 8:00 a.m. to 4:30 p.m., Eastern Time. For appointment or more information regarding the UPGR inventory call Melanie Humphrey at (906) 250-7564 or via email at HumphreyM@michigan.gov.